

**Cleanup Action Plan
Rainier Commons Facility
3100 Airport Way S.
Seattle, Washington**

April 29, 2009

Prepared For:

Rainier Commons LLC
3100 Airport Way S.
Seattle, Washington 98134

Prepared By:

CDM

11811 NE 1st Street, Suite 201
Bellevue, Washington 98005

CDM Project No. 79179.68845.Paint Plan

A Report Prepared For :

Rainier Commons LLC
3100 Airport Way S.
Seattle, Washington 98134

**CLEANUP ACTION PLAN
RAINIER COMMONS FACILITY
3100 AIRPORT WAY S.
SEATTLE, WASHINGTON**

April 29, 2009



Pamela J. Morrill, LHG
Senior Project Manager

CDM

11811 N.E. 1st Street, Suite 201
Bellevue, Washington 98005
425/453-8383

CDM Project No. 79179.68845.Paint Plan

RCLLC 0003436

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Figure 1 Site Location Map

Drawing 1 Catch Basin Locations Plan

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Section 1

Introduction

This cleanup action plan addresses the proper cleanup and disposal of paint chips on the ground surface and in the storm sewer for the Rainier Commons facility located at 3100 Airport Way. The existing paint on the building exteriors contains polychlorinated biphenyls (PCBs) and lead.

This work plan has been prepared to ensure that best management procedures (BMPs) are employed during cleanup and disposal of PCB and lead containing paint chips generated during the maintenance of exterior painted surfaces of the Rainier Commons facility.

1.1 Background

The Rainier Commons facility is situated on an approximately 4.6-acre parcel located on the west side of I-5, just north of the Spokane Freeway in Seattle, Washington. The site location is shown on Figure 1. The property was initially developed in the late 1800s as a brewery and functioned in a similar capacity until 1996 (Farallon, 2004). The facility was owned by several entities over the years, but is most widely known as the "former Rainier Brewery." In July 2003, the Site was sold to Rainier Commons who is currently developing the site as a multi-use, artisan-based cooperative facility. Tully's, a coffee roaster, has occupied the site as a tenant since November 1998 (Farallon, 2004) and is the next most widely known occupant of this facility.

The Site currently includes 24 buildings that are generally connected to each other to form a single large structure that occupies the majority of the Site. The attached drawing shows the site layout. Most of the buildings are multi-floored structures with as many as eight levels that are generally constructed of steel-reinforced concrete (Farallon, 2004). The building exteriors generally consist of brick, concrete, and sandstone. Paint does not strongly adhere to these materials, especially brick and sandstone, and Seattle's freeze/thaw conditions tend to exacerbate flaking and peeling.

In October 2005 PCBs were identified in the storm drain catch basin sediments. Eventually, the source of PCBs was traced back to the buildings' exterior paint. A paint chip sample collected by Vernon Environmental, Inc. in 2008 was found to contain 2,300 milligrams per kilogram (mg/kg) of the PCB congener Arochlor (A) 1254. On March 25, 2009, CDM collected a paint chip sample off Building 13. This sample contained 160 mg/kg A1254 and 130 mg/kg A1260. A copy of the analytical report is included in Appendix A. The EPA collected a duplicate of CDM's sample and the total A1254 and A1260 congeners were reported at 2,500 mg/kg. CDM did not analyze the exterior paint sample for lead and as of the writing of this plan; the EPA's total lead analysis was not available. However, it can be assumed that the paint is lead-containing. A lead-based paint survey of interior painted surfaces

conducted by Vernon Environmental in 2006 did identify lead-based paint throughout the interior painted surfaces.

Rainier Commons is taking steps to implement all best management practices necessary to prevent the release of paint chips containing PCBs and lead in the future, including:

- 1) Placing filter fabrics at all storm water discharge points, including catch basins and roof drains.
- 2) Implementing a routine facility inspection program to identify the need for replacement of stormwater filters, catch basin cleaning, paint repair, and ground surface cleanup.
- 3) Implementing required maintenance of items identified during inspections on a timely basis.
- 4) Implementing appropriate methods of managing PCB-containing wastes.

After these improvements have been completed and the source of PCB-paint chips is controlled, this cleanup plan will be implemented.

1.2 Existing O&M Plan

Rainier Commons has an existing *PCB Based Paint Building Operation & Maintenance Plan* that has been prepared for the site (Vernon, 2007). The plan applies to Rainier Commons' employees where the handling of Lead/PCB containing paint presents a risk of exposure through inhalation, absorption or ingestion. The O&M Plan outlines the applicable regulations, how lead-based paint assessments are conducted, exposure monitoring, training requirements, medical surveillance requirements, personal hygiene practices, respiratory protection, signage, record keeping requirements, general work practices, and waste disposal requirements.

This cleanup plan is not intended to repeat or replace the general *PCB Based Paint Building Operation & Maintenance Plan*. This plan supplements the existing PCB/Lead O&M plan by detailing the appropriate methods to be followed during the paint removal and repair to ensure that PCBs and lead are not being discharged to the environment.

Section 2

Cleanup Procedures

2.1 Worker Health and Safety

All work will be conducted in accordance with the Occupational Safety and Health (OSHA) 29 CFR 1926.62, Occupational Health and Environmental Controls pertaining to lead, and implement all appropriate training requirements, engineering controls, personnel protective equipment (PPE), and air monitoring to ensure worker safety.

2.2 Work Preparation

Paint removal work will occur in small, well defined areas to ensure that conditions can be appropriately controlled and contained.

Prior to the start of work, the location of all catch basins and/or roof drains will be identified within the potential runoff area of the work and inspected. Any filter fabric socks/barriers that are missing, in poor condition, or otherwise compromised will be repaired prior to the start of work.

The area of work will be cordoned off with cones, barriers, tape and/or other measures to keep the public away from the work area. Ingress and egress through the work area by workers will be controlled through one location to keep from tracking paint chips out of the work area.

The ground surface throughout the work area will be thoroughly covered with plastic visqueen surrounded by straw waddles or similar devices to help capture paint chips at the point of origin. For safety reasons, it may be necessary to use a fabric tarp instead of plastic. The visqueen will encompass a surface area that extends well beyond the actual work area.

Ladders and/or manlifts will be used to accomplish paint repair in areas inaccessible by foot.

2.3 Paint Removal

Removal of flaking and peeling paint during this maintenance event will occur by manual methods. Paint removal from any given wall will occur from the top down. Removal will occur using manual scraping, vacuuming, and washing. Loose paint will be removed using traditional paint scrapers. To the extent practicable, the paint will be collected as it is removed (i.e., in buckets, vacuuming). An alternative for paint on flat concrete surfaces is the use of electric strippers that are connected to a vacuum hose (e.g., PaintShaver®). As the paint is removed, the surface will be vacuumed and then washed down. Since the removal will occur from top to bottom, any residual paint debris that adheres to the walls will be gradually flushed to the ground.

2.4 Cleanup

The straw waddles will be picked up, knocking off any visible paint chips back onto the visqueen and placed into plastic bags for transport to the next location. The visqueen will be rolled inward upon itself to spreading the accumulation of paint chips onto the ground. Paint chip accumulations on the visqueen shall be discarded into drums and the visqueen itself bagged. To the extent practicable, the work area will be swept and accumulated debris discarded into waste drums. Residual debris on the ground surface will be pressure washed to the nearest catch basin/roof drain. Finally, all PPE must be bagged for appropriate disposal.

2.5 Storm Drain System Cleaning

After completing the cleanup activities identified in Section 2.4, the storm drain system will be cleaned. The filter socks/fabric in catch basins and roof drains in areas impacted by paint repair activities will be removed. The discarded filters will be stored in 55-gallon labeled drums pending disposal. Catch basins and storm drain lines will then be cleaned of sediment that may contain paint chips. The work will occur during a dry period. Beginning at the most upstream manhole(s), the will proceed by first plugging the downstream manhole, vactoring sediment from the catch basin, jetting the storm line and vactoring the sludge and rinsewater from the upstream catch basin. The work will progress sequentially until reaching the most downstream catch basin(s).

2.6 Waste Profiling and Disposal

Waste generated during the cleanup will include: paint debris; plastic sheeting/drop cloths and tape; disposable PPE, disposable tools; filter socks and fabric; and vactored sediment and rinsewater. Bagged visqueen and PPE will be disposed of at a Subtitle D landfill. Paint chips, sweepings, catch basin/roof drain filters, and sediments will be stored in properly labeled 55-gallon DOT approved drums. Rinse water will be stored in 250 gallon totes. Drums and totes will be placed in a secure area until profiling has been completed. Wastes in drums and totes will be profiled for PCBs and leachable lead and disposed of in accordance with 40 CFR 761.50, 40 CFR 761.62, and WAC 173-303.

Section 3 Schedule

The proposed schedule for this work is as follows:

Task	Time Line
Identify Areas of Paint Requiring Maintenance	May 2009
Paint Removal	June 2009
Storm Drain System Cleaning	July 2009

Section 4

References

Farallon Consulting. 2004. *Phase I Environmental Site Assessment, Former Rainier Brewery, 3100 Airport Way South, Seattle, Washington*. April 14.

Vernon Environmental, Inc. 2006. *Lead Based Paint Building Survey Report. Former Rainier Brewery 3100 Airport Way, Seattle, Washington, King County*. November 20.

Vernon Environmental, Inc. 2007. *PCB Based Paint building Operation & Maintenance Plan, Former Rainier Brewery, 3100 Airport Way, Seattle, Washington 98134*. January.

Vernon Environmental, Inc. 2008. *Catch Basin Sediment Field Sampling Results Report (Split Sampling Between Rainier Commons, Seattle Public Utility and King County), Former Rainier Brewery Property, 3100 Airport Way, Seattle, Washington, King County*. July 14.

Figure and Drawing

CDM

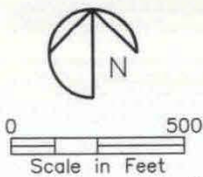
Q:\70000-79999\79179-Rainier Commons\68845\Final Paint Repair Plan.doc

RCLLC 0003444

P:\79179\68845\ Fig-1-vm 04/23/09 10:01 richlepj



Source: GOOGLE EARTH PRO, 2009



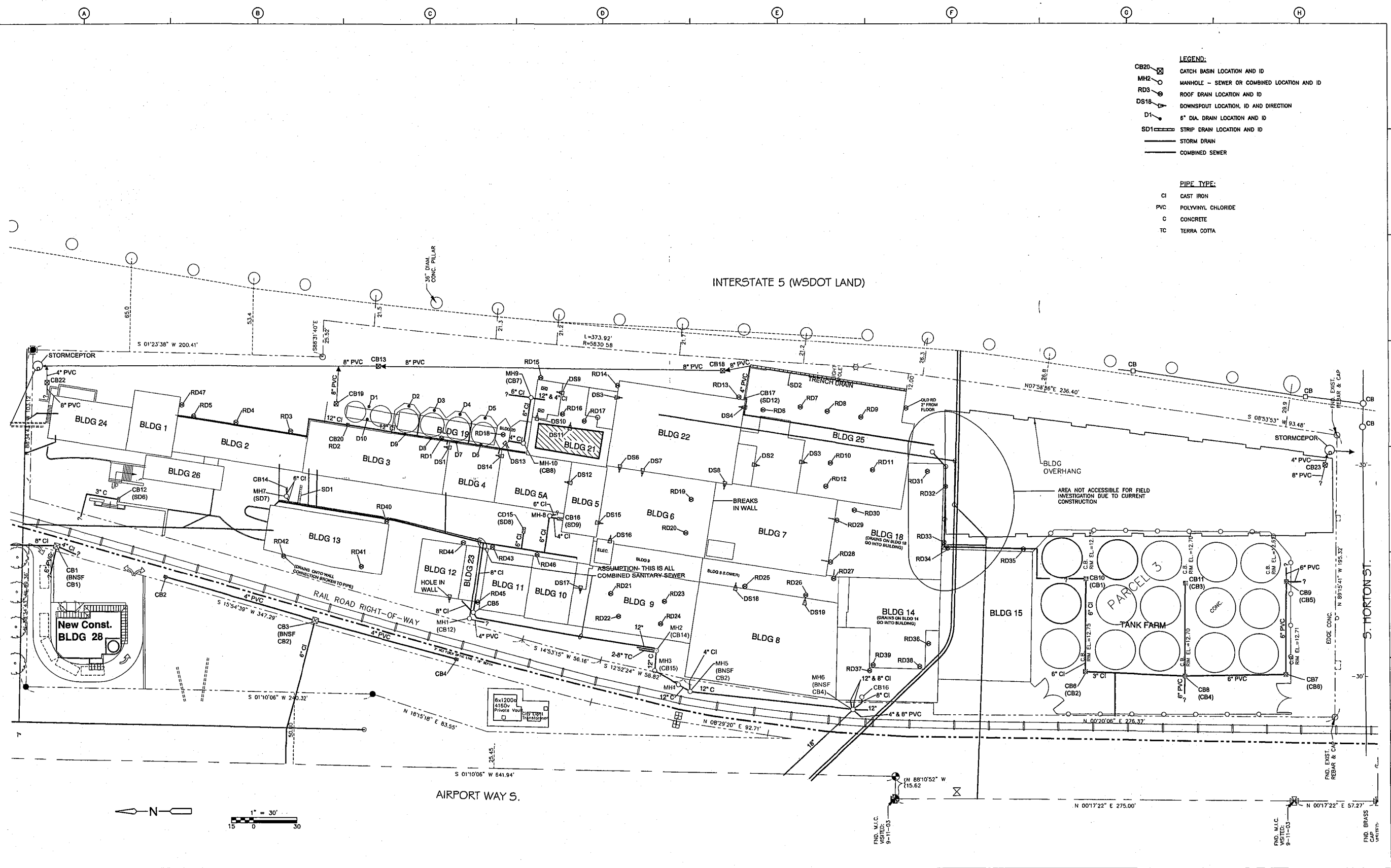
CDM


RAINIER COMMONS/FORMER RAINIER BREWERY
SEATTLE, WASHINGTON

Figure No. 1
Site Location Map

RCLLC 0003445

P:\79179\88845\CDM-SITE 04/24/09 08:58 rchlep XRES: cdm-site-utility, Site Utilities, CDM-22-34bdr, building 100 BASE, SDS Street Improvements, Survey, tank farm fence (black), Tullys Drive Thru, East Fire Road (black)



				DESIGNED BY: <u>AEM</u>		CDM Camp Dresser & McKee Inc. 11811 N.E. 1st Street, Suite 201, P.O. Box 3885 Bellevue, Washington 98005 Tel: (425) 453-8383 consulting • engineering • construction • operations	VERIFY SCALE  THIS BAR IS ONE INCH LONG AT FULL SCALE	RAINIER COMMONS LLC 3100 AIRPORT WAY S SEATTLE, WASHINGTON CATCH BASIN STUDY	PROJECT NO. 78898-68556 FILE NAME: SHEET NO. 1
				DRAWN BY: <u>PJR</u>					
				SHEET CHK'D BY: <u>PJM</u>					
				CROSS CHK'D BY: _____					
				APPROVED BY: _____					
				DATE: <u>JANUARY 2009</u>					
REV. NO.	DATE	DRWN	CHKD	REMARKS					

Appendix A

Analytical Report

CDM

Q:\70000-79999\79179-Rainier Commons\68845\Final Paint Repair Plan.doc

RCLLC 0003447



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Received
APR 09 2009

April 6, 2009

Ms. Pam Morrill
CDM
11811 NE 1st, Suite 201
Bellevue, WA 98009

RE: Project ID: Rainier Commons, 79179-68845-QM.QMR
ARI Job No: OS18

Dear Pam:

Please find enclosed the original Chain-of-Custody (COC) record, sample receipt documentation, and the final results for the samples from the project referenced above. Analytical Resources Inc. (ARI) accepted one paint chip sample, one wipe sample, and one sediment sample in good condition on March 25, 2009. For further details regarding sample receipt, please refer to the enclosed Cooler Receipt Form.

The samples were analyzed for PCBs, as requested on the COC.

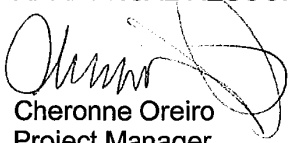
The sediment sample was initially screened to determine if there was a response that would require modification of the extraction process. Based on the screen, sample **SD#1-SED** was extracted with an initial weight of five grams and a final effective volume of 40mL.

There were no anomalies associated with the analyses of these samples.

An electronic copy of this report as well as all supporting data will remain on file with ARI. If you have any questions or require additional information, please contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.


Cheronne Oreiro
Project Manager
(206) 695-6214
cheronneo@arilabs.com
www.arilabs.com

cc: Efile OS18

Enclosures



Date 3/25/09 Page 1 of 1

[illegible]

DISTRIBUTION: White, Canary to Analytical Laboratory; Pink to CDM Project Files; Gold to CDM Disposal Files

RCLLC 0003449



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: CDM

COC No(s): NA

Assigned ARI Job No: OS18

Project Name: Painter Commons

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: NA

Tracking No: NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)..... 11.8

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: 101088

Cooler Accepted by: [Signature]

Date: 3/25/09

Time: 1140

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: NA

Was sufficient ice used (if appropriate)? YES NO

Were all bottles sealed in individual plastic bags? YES NO

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES NO

Samples Logged by: JH

Date: 3/25/09

Time: 1620

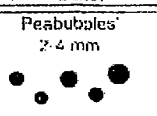
**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By:

Date:

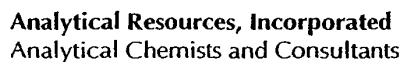


Small → "sm"

Peabubbles → "pb"

Large → "lg"

Headspace → "hs"



Cooler Temperature Compliance Form

Cooler#:		Temperature(°C):	
Sample ID	Bottle Count	Bottle Type	
Blgg #13 - paint	1	4oz wwn glass	
Blgg #5 - elevator	1	" " "	
SID #1 - SED	1	" " "	

[illegible][illegible][illegible]

Completed by: _____ Date: _____ Time: _____

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1



Sample ID: BLDG#13-PAINT
SAMPLE

Lab Sample ID: OS18A
LIMS ID: 09-7288
Matrix: PAINT CHIP
Data Release Authorized: *[Signature]*
Reported: 04/06/09

QC Report No: OS18-CDM, Inc.
Project: RAINIER COMMONS
79179-68845-QM.QMR
Date Sampled: 03/24/09
Date Received: 03/25/09

Date Extracted: 03/30/09
Date Analyzed: 04/04/09 02:26
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.06 g-as-rec
Final Extract Volume: 40 mL
Dilution Factor: 30.0
Silica Gel: Yes
Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	24,000	< 24,000 U
53469-21-9	Aroclor 1242	24,000	< 24,000 U
12672-29-6	Aroclor 1248	47,000	< 47,000 Y
11097-69-1	Aroclor 1254	24,000	160,000
11096-82-5	Aroclor 1260	24,000	130,000
11104-28-2	Aroclor 1221	24,000	< 24,000 U
11141-16-5	Aroclor 1232	24,000	< 24,000 U
37324-23-5	Aroclor 1262	24,000	< 24,000 U
11100-14-4	Aroclor 1268	24,000	< 24,000 U

Reported in $\mu\text{g/kg}$ (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	D
Tetrachlorometaxylene	D

SW8082/PCB SOIL/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: PAINT CHIP

QC Report No: OS18-CDM, Inc.
Project: RAINIER COMMONS
79179-68845-QM.QMR

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT	OUT
MB-033009	93.5%	66-137	80.2%	70-126		0
LCS-033009	94.8%	66-137	80.5%	70-126		0
LCSD-033009	86.5%	66-137	76.5%	70-126		0
BLDG#13-PAINT	D	46-153	D	46-135		0

Medium Level Control Limits
Prep Method: SW3580A
Log Number Range: 09-7288 to 09-7288

ORGANICS ANALYSIS DATA SHEET

PCB by GC/ECD Method SW8082

Page 1 of 1

Sample ID: LCS-033009

LCS/LCSD

Lab Sample ID: LCS-033009

LIMS ID: 09-7288

Matrix: PAINT CHIP

Data Release Authorized: *[Signature]*

Reported: 04/06/09

QC Report No: OS18-CDM, Inc.

Project: RAINIER COMMONS

79179-68845-QM.QMR

Date Sampled: NA

Date Received: NA

Date Extracted LCS/LCSD: 03/30/09

Sample Amount LCS: 5.00 g-as-rec

LCSD: 5.00 g-as-rec

Date Analyzed LCS: 04/04/09 01:52

Final Extract Volume LCS: 40 mL

LCSD: 04/04/09 02:09

LCSD: 40 mL

Instrument/Analyst LCS: ECD5/JGR

Dilution Factor LCS: 1.00

LCSD: ECD5/JGR

LCSD: 1.00

GPC Cleanup: No

Silica Gel: Yes

Sulfur Cleanup: Yes

Percent Moisture: NA

Acid Cleanup: Yes

Florisil Cleanup: No

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	3740	4000	93.5%	3620	4000	90.5%	3.3%
Aroclor 1260	4240	4000	106%	4080	4000	102%	3.8%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	94.8%	86.5%
Tetrachlorometaxylene	80.5%	76.5%

Results reported in $\mu\text{g/kg}$ (ppb)

RPD calculated using sample concentrations per SW846.

ORGANICS ANALYSIS DATA SHEET

PCB by GC/ECD Method SW8082

Page 1 of 1

Sample ID: MB-033009

METHOD BLANK

Lab Sample ID: MB-033009

LIMS ID: 09-7288

Matrix: PAINT CHIP

Data Release Authorized: *AB*

Reported: 04/06/09

QC Report No: OS18-CDM, Inc.

Project: RAINIER COMMONS

79179-68845-QM.QMR

Date Sampled: NA

Date Received: NA

Date Extracted: 03/30/09

Date Analyzed: 04/04/09 01:35

Instrument/Analyst: ECD5/JGR

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Florisil Cleanup: No

Sample Amount: 5.00 g

Final Extract Volume: 40 mL

Dilution Factor: 1.00

Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	800	< 800 U
53469-21-9	Aroclor 1242	800	< 800 U
12672-29-6	Aroclor 1248	800	< 800 U
11097-69-1	Aroclor 1254	800	< 800 U
11096-82-5	Aroclor 1260	800	< 800 U
11104-28-2	Aroclor 1221	800	< 800 U
11141-16-5	Aroclor 1232	800	< 800 U
37324-23-5	Aroclor 1262	800	< 800 U
11100-14-4	Aroclor 1268	800	< 800 U

Reported in $\mu\text{g/kg}$ (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	93.5%
Tetrachlorometaxylene	80.2%

ORGANICS ANALYSIS DATA SHEET

PCB by GC/ECD Method SW8082

Page 1 of 1

Sample ID: BLDG#5-ELEVATOR

SAMPLE

Lab Sample ID: OS18B

LIMS ID: 09-7289

Matrix: Wipe

Data Release Authorized:

Reported: 04/02/09

QC Report No: OS18-CDM, Inc.

Project: RAINIER COMMONS

79179-68845-QM.QMR

Date Sampled: 03/24/09

Date Received: 03/25/09

Date Extracted: 03/27/09

Date Analyzed: 03/30/09 12:25

Instrument/Analyst: ECD5/JGR

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Sample Amount: 1.00 Wipe

Final Extract Volume: 10 mL

Dilution Factor: 5.00

Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	2.5	< 2.5 Y
11097-69-1	Aroclor 1254	1.0	4.3
11096-82-5	Aroclor 1260	1.0	< 1.0 U
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U
37324-23-5	Aroclor 1262	1.0	< 1.0 U
11100-14-4	Aroclor 1268	1.0	< 1.0 U

Reported in Total μ g

PCB Surrogate Recovery

Decachlorobiphenyl	76.2%
Tetrachlorometaxylene	66.0%

SW8082/PCB WIPES SURROGATE RECOVERY SUMMARY

Matrix: Wipe

QC Report No: OS18-CDM, Inc.
Project: RAINIER COMMONS
79179-68845-QM.QMR

Client ID	DCBP	TCMX	TOT OUT
MB-032709	96.0%	71.2%	0
LCS-032709	97.8%	76.8%	0
LCSD-032709	97.2%	74.2%	0
BLDG#5-ELEVATOR	76.2%	66.0%	0

	LCS/MB LIMITS	QC LIMITS
(DCBP) = Decachlorobiphenyl	(30-160)	(30-160)
(TCMX) = Tetrachlorometaxylene	(30-160)	(30-160)

Prep Method: SW3580A
Log Number Range: 09-7289 to 09-7289

ORGANICS ANALYSIS DATA SHEET

PCB by GC/ECD Method SW8082

Page 1 of 1

Sample ID: LCS-032709

LCS/LCSD

Lab Sample ID: LCS-032709

LIMS ID: 09-7289

Matrix: Wipe

Data Release Authorized: *[Signature]*

Reported: 04/02/09

QC Report No: OS18-CDM, Inc.

Project: RAINIER COMMONS

79179-68845-QM.QMR

Date Sampled: 03/24/09

Date Received: 03/25/09

Date Extracted LCS/LCSD: 03/27/09

Sample Amount LCS: 1.00 Wipe

LCSD: 1.00 Wipe

Date Analyzed LCS: 03/30/09 11:50

Final Extract Volume LCS: 10 mL

LCSD: 03/30/09 12:07

LCSD: 10 mL

Instrument/Analyst LCS: ECD5/JGR

Dilution Factor LCS: 1.00

LCSD: ECD5/JGR

LCSD: 1.00

GPC Cleanup: No

Silica Gel: Yes

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	3.9	5.0	78.0%	3.9	5.0	78.0%	0.0%
Aroclor 1260	5.0	5.0	100%	5.1	5.0	102%	2.0%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	97.8%	97.2%
Tetrachlorometaxylene	76.8%	74.2%

Reported in Total μ g

RPD calculated using sample concentrations per SW846.

ORGANICS ANALYSIS DATA SHEET

PCB by GC/ECD Method SW8082

Page 1 of 1

Sample ID: MB-032709

METHOD BLANK

Lab Sample ID: MB-032709

LIMS ID: 09-7289

Matrix: Wipe

Data Release Authorized: *[Signature]*

Reported: 04/02/09

QC Report No: OS18-CDM, Inc.

Project: RAINIER COMMONS

79179-68845-QM.QMR

Date Sampled: NA

Date Received: NA

Date Extracted: 03/27/09

Date Analyzed: 03/30/09 11:33

Instrument/Analyst: ECD5/JGR

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Sample Amount: 1.00 Wipe

Final Extract Volume: 10 mL

Dilution Factor: 1.00

Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	1.0	< 1.0 U
11097-69-1	Aroclor 1254	1.0	< 1.0 U
11096-82-5	Aroclor 1260	1.0	< 1.0 U
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U
37324-23-5	Aroclor 1262	1.0	< 1.0 U
11100-14-4	Aroclor 1268	1.0	< 1.0 U

Reported in Total μ g

PCB Surrogate Recovery

Decachlorobiphenyl	96.0%
Tetrachlorometaxylene	71.2%

ORGANICS ANALYSIS DATA SHEET

PCB by GC/ECD Method SW8082


Page 1 of 1

Sample ID: SD#1-SED
SAMPLE

Lab Sample ID: OS18C

LIMS ID: 09-7290

Matrix: Sediment

Data Release Authorized: 

Reported: 04/03/09

QC Report No: OS18-CDM, Inc.

Project: RAINIER COMMONS

79179-68845-QM.QMR

Date Sampled: 03/24/09

Date Received: 03/25/09

Date Extracted: 03/30/09

Date Analyzed: 04/01/09 07:10

Instrument/Analyst: ECD5/JGR

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Florisil Cleanup: No

Sample Amount: 2.62 g-dry-wt

Final Extract Volume: 40 mL

Dilution Factor: 10.0

Silica Gel: Yes

Percent Moisture: 48.4%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	15,000	< 15,000 U
53469-21-9	Aroclor 1242	15,000	< 15,000 U
12672-29-6	Aroclor 1248	15,000	< 15,000 U
11097-69-1	Aroclor 1254	15,000	60,000
11096-82-5	Aroclor 1260	15,000	63,000
11104-28-2	Aroclor 1221	15,000	< 15,000 U
11141-16-5	Aroclor 1232	15,000	< 15,000 U
37324-23-5	Aroclor 1262	15,000	< 15,000 U
11100-14-4	Aroclor 1268	15,000	< 15,000 U

Reported in $\mu\text{g/kg}$ (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	116%
Tetrachlorometaxylene	88.2%

SW8082/PCB SOIL/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Sediment

QC Report No: OS18-CDM, Inc.
Project: RAINIER COMMONS
79179-68845-QM.QMR

Client ID	DCBP	DCBP	TCMX	TCMX	TOT	OUT
	% REC	LCL-UCL	% REC	LCL-UCL		
MB-033009	91.0%	66-137	75.0%	70-126	0	
LCS-033009	91.0%	66-137	75.0%	70-126	0	
LCSD-033009	92.0%	66-137	73.2%	70-126	0	
SD#1-SED	116%	46-153	88.2%	46-135	0	

Medium Level Control Limits
Prep Method: SW3580A
Log Number Range: 09-7290 to 09-7290

ORGANICS ANALYSIS DATA SHEET

PCB by GC/ECD Method SW8082

Page 1 of 1

Sample ID: LCS-033009

LCS/LCSD

Lab Sample ID: LCS-033009

LIMS ID: 09-7290

Matrix: Sediment

Data Release Authorized: *[Signature]*

Reported: 04/03/09

QC Report No: OS18-CDM, Inc.

Project: RAINIER COMMONS

79179-68845-QM.QMR

Date Sampled: NA

Date Received: NA

Date Extracted LCS/LCSD: 03/30/09

Sample Amount LCS: 5.00 g-dry-wt

LCSD: 5.00 g-dry-wt

Date Analyzed LCS: 04/01/09 06:36

Final Extract Volume LCS: 40 mL

LCSD: 04/01/09 06:53

LCSD: 40 mL

Instrument/Analyst LCS: ECD5/JGR

Dilution Factor LCS: 1.00

LCSD: ECD5/JGR

LCSD: 1.00

GPC Cleanup: No

Silica Gel: Yes

Sulfur Cleanup: Yes

Percent Moisture: NA

Acid Cleanup: Yes

Florisil Cleanup: No

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	3350	4000	83.8%	3470	4000	86.8%	3.5%
Aroclor 1260	4170	4000	104%	4390	4000	110%	5.1%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	91.0%	92.0%
Tetrachlorometaxylene	75.0%	73.2%

Results reported in $\mu\text{g/kg}$ (ppb)

RPD calculated using sample concentrations per SW846.

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: MB-033009
METHOD BLANK

Lab Sample ID: MB-033009
LIMS ID: 09-7290
Matrix: Sediment
Data Release Authorized: *AB*
Reported: 04/03/09

QC Report No: OS18-CDM, Inc.
Project: RAINIER COMMONS
79179-68845-QM.QMR
Date Sampled: NA
Date Received: NA

Date Extracted: 03/30/09
Date Analyzed: 04/01/09 06:19
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.00 g
Final Extract Volume: 40 mL
Dilution Factor: 1.00
Silica Gel: Yes
Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	800	< 800 U
53469-21-9	Aroclor 1242	800	< 800 U
12672-29-6	Aroclor 1248	800	< 800 U
11097-69-1	Aroclor 1254	800	< 800 U
11096-82-5	Aroclor 1260	800	< 800 U
11104-28-2	Aroclor 1221	800	< 800 U
11141-16-5	Aroclor 1232	800	< 800 U
37324-23-5	Aroclor 1262	800	< 800 U
11100-14-4	Aroclor 1268	800	< 800 U

Reported in $\mu\text{g/kg}$ (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	91.0%
Tetrachlorometaxylene	75.0%



Date 3/2/04 Page 1 of 1

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rev. 2/02 Portland: (503) 232-1800

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